# Cluster Errors

Error sources unrelated to cluster finding
- Uncertainty due to drift dynamics
- Electronic noise
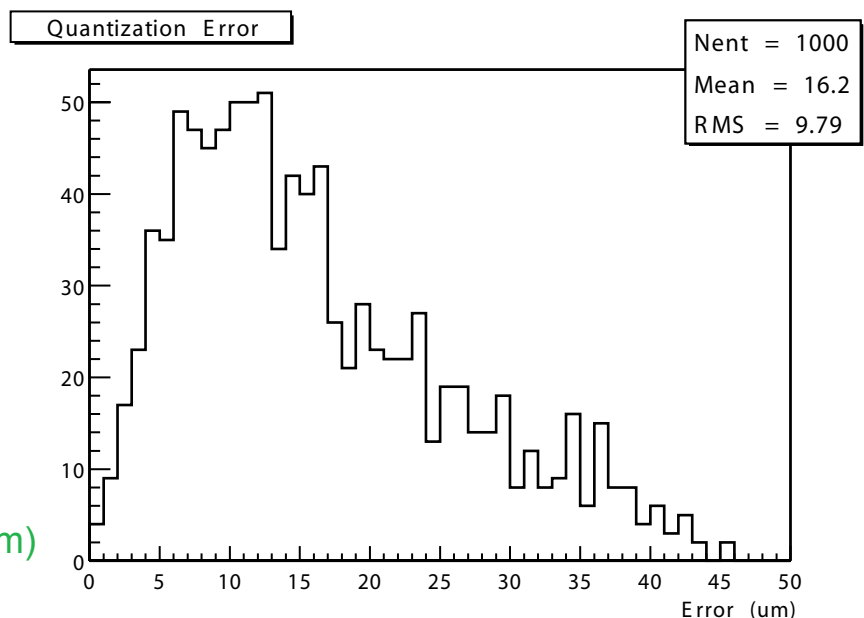
Error sources related to the cluster finding
- Quantization of charge, pads, timebins
(On the order of 15 um)

Shift of gaussian mean
due to projection onto
pad/timebin/charge grid
for average hit on outer
padrow

(q = 250 adc
 prf = .48 cm
 zrf = .90 cm
 pad separation = .67 cm
 time bin separation = .10 cm)



| Quantization Error |
| --- |

Nent = 1000
Mean = 16.2
RMS = 9.79

Error (um)

- Resolution of pads, timebins
(pad/64          ~ 100 um outer padrows)
(pad/64          ~ 50 um inner padrows)
(timebucket/64   ~ 15 um)

- Non-gaussian hit shapes

- Deconvolution
(Repulsion of deconvoluted hits: afterburner?)